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Alloys in Manufacturing

Presentation Guidelines: 2011 - 12 School Year

This presentation is a combined effort for English, chemistry/physics, and technology. Below are the general guidelines for the presentation, as well as the list of major steps required for the project. We will be discussing individual steps in more detail throughout the next few weeks. You will receive information and examples on how to correctly format each part of the overall presentation. In addition, you will continue to receive smaller assignments that relate to this project in an effort to help direct and organize your research.

The following items will help in your planning, organizing, and researching.

- **NMC Library Research Information Seminar** – (_____)
We will attend a training session on how to constructively use the Internet for research and tour the library to see available resources. You will be given time to stay and research your topic.
- **Seminar and lab by Mr. Cliff Kelto, metallurgical consultant from Material and Process Engineering** – (T 3/20 and W 3/21) Mr. Kelto will work with small groups in the metallurgy lab to discuss hardness scales and show the use of Brinell and Rockwell hardness equipment. If time permits, you will also receive an industrial tensile test demonstration. While this is happening, Tim Wheatley will be conducting a tensile test lab. You will be placed into groups for both events and rotate through the activities according to a schedule, so you will not be in a seminar/lab the entire time.
- **AlcoTec Seminar and Tour** (_____) Mr. Hamilton, a product manager and metallurgist, will address aluminum alloys and their characteristics. You then will be led on a tour of the facility to see specifically what they do with aluminum alloys and how they manufacture aluminum welding wire.
- **Century Sun Tour** – (_____) Mr. Brad Holst, a metallurgist, will lead us on a tour through the company where you will be able to see the heat treat processes in action and ask questions about specific processes.

GENERAL GUIDELINES:

Description –

You may choose any product to research as long as it is made of an alloy. Think of companies you have visited and the products they make. Did anything catch your interest? Are you in any sports or hobbies that use metal equipment? If so, is it made of an alloy? Pick a topic that is interesting to you. This will help make the work more fun!

You will be able to use information from the Amatrol LAPs, seminars, videos, company tours, etc. In addition, you will need to research your product or the alloy it is made of. The following list of questions will help guide your data gathering:

- Explain your product and its use. You **MUST** describe/explain how it is manufactured.
- What alloy is it made of? What elements (and their percentages) are in the alloy? Why? What are properties and characteristics of this alloy? Use the proper terminology.
- Does the application of the product have anything to do with the type of alloy used to manufacture it? Refer to specific properties to explain this.
- Are there similar or same products manufactured but with different alloys or materials? If so, explain. Why would a different material be used?
- Do you think your product could be made with a different type of material? What would it be? Why isn't it made with this material now?
- What did you find interesting or exciting about your product?
- You can include any other information you find relevant.

*We will be further discussing the chemistry technical content that is **REQUIRED** for everyone's report. See the handout titled "Alloy Presentation: Chemistry/Technical Content" attached.*

Name _____

Specifics – *[All work MUST be shared equally between teammates. Each person will be required to research all areas of the topic, not split them up, so that everyone is familiar with the overall topic. Information will be shared and discussed so that the work done is a true team effort.]*

- Your presentation should be at least **10 minutes** long. You do not just have to give a speech. Get creative! Use PowerPoint, charts, posters, displays, videos, or anything you think would help your presentation to be interesting and informative for the audience. It would be helpful if you could bring in a sample of your product.
- You will have to turn in an **outline** of your presentation. You will have a working draft and a final draft. We will be discussing the format in more depth in class as it gets closer.
- You will need to hand in **research notepages** from your sources. These are used instead of notecards to record all information about the source and notes from the source that you will be using. Be sure to use these as you gather information so you don't forget where you got the notes from. You need to have one of these for EVERY SOURCE you use. You MUST take notes on this form, even if you attach a print out/copy of the information.
- Your research notepages will be compiled onto a **reference page** that will be turned in. We will be following the guidelines using MLA format in Writer's Inc. handbook (and Moodle links). We will be referring to it and going over examples of how yours should look. You must have a minimum of **6 sources**. ONLY 2 CAN BE WEBSITES/INTERNET sources (full text articles from periodicals found on line do not count towards the 2). You will have a working draft and a final draft.

Due Dates – *[This is a team project, therefore, each team needs to work together to turn in one item per group. All team members will be given the same grade; a peer evaluation will be given at the end of the project to determine if each team member contributed his/her fair share. The final presentation grades will be adjusted, if needed due to unequal peer evals. This will be discussed further in class.]*

W 4/4 end of class : Preliminary Reference Page and Research Notepages (minimum 4 sources)

W 4/4 end of class : Working Outline

T 4/10 (Tech 1A) during class : Project Consultation – each team meets individually with Mr. Kelto
W 4/11 (Tech 1B) and Debby Oliver to discuss rough outline; you will be given details
and an assignment in order to prepare for this meeting ahead of time

T 4/24, W 4/25 start of class : Presentations to class; also turn in Final Outline, all Research
Notepages, and Final Reference Page before presentation.

All deadlines must be met or you will receive a zero for that portion. If you will be gone on a due date, make sure your partner(s) has your portion of the work so that the entire assignment can be turned in on time. No exceptions. Make sure to communicate any scheduling issues with your instructor and your teammate(s).

Please keep information about this project in the “Alloy Unit” binder you have been given. Also, you will see a folder titled “2011 – 12 Alloy Project” in the cloud – create a team folder within it where you can store work.

You will be given some time in both technology and English classes to research, however, IT IS YOUR RESPONSIBILITY TO WORK AT THE LIBRARY OUTSIDE OF CLASS TIME if needed.